MUSTAFAYEV, S.M.

      Medicinal plants in Surkhan-Darya Province, Uzbek S.S.R.
      Vop. biol. i kraev. med. no.4:193-200 '63.

                        (MIRA 17:2)

MUSTAFAYEV, A.D.; ISMAYLOV, D.D.; MUSTAFAYEV, V.A.

Bearing covers in reducers of pumping units made of new materials.
Izv.vys.ucheb.zav.; neft' i gaz 5 no.12:93-97 '62.   (MIRA 17:4)

1. Azerbaydzhanskiy institut nefti i khimii imeni Azizbekova.

VINOGRADOV, G.V. (Moskva); MUSTAFAYEV, V.A. (Moskva); PODOL'SKIY, Yu.Ya. (Moskva)

Wear and friction of steel in the presence of polymer powders.
Izv.AN SSSR. Mekh.i mashinostr. no.1:202-205 Ja-F '64.
(MIRA 17:4)

L 45226-65 EWT(d)/EWT(m)/EPF(c)/EWP(w)/EWA(d)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/
EWP(h)/EWP(z)/EWP(b)/EWP(l) Pc-4/Pf-4/Pr-4 MJW/JD/RM
UR/2711/64/000/019/0111/0126 50

ACCESSION NR: AT5010240 B+1

AUTHOR: Mustafayev, V. A.; Vinogradov, G. V.; Podol'skiy, Yu. Ya.

TITLE: Wear and friction of plastics in contact with metals

SOURCE: AN SSSR. Institut mashinovedeniya. Treniye i iznos v mashinakh, no. 19, 1964. Iznos i treniye metallov i plastmass (Wear and friction of metals and plastics), 111-126

TOPIC TAGS: plastic wear, plastic friction, plastic metal contact, friction couple, armco iron, steel, textolite, lubricant effectiveness, metal oxidation, glycerol

ABSTRACT: The purpose of this work was to elucidate the part played by oxygen in the friction of metals against plastics. Ring specimens of armco iron (HRC = 10) and hardened steel ShKh-6 (HRC = 60) were studied in contact with textolite, low-pressure polyethylene, polypropylene, polymethylmethacrylate and polytetrafluoroethylene. A naphthene-paraffin fraction of oil MS-14 and glycerol were used as lubricants, and the tests were carried out on the MT-6 friction machine. It was found that a decrease in the rate of oxidation processes did not affect the friction of hardened steel and soft iron against soft plastics. In the case of

Card 1/2

L 45226-65
ACCESSION NR: AT5010240

textolite coupled with armco iron, the character of friction is determined by the transfer of iron onto the surface of the plastic, and hence, by the marked dependence of the friction process on the oxidizing activity of the gaseous medium. The effectiveness of the action of liquid lubricants is determined not only by the composition and properties of the lubricant, but also by the nature of the plastic. This action may increase or decrease with an increase in specific loads. The decrease in the coefficient of friction of glycerol, observed in the study of many plastics, is undoubtedly due to an increase in the chemical activity of glycerol when severe contact-friction conditions are employed. Orig. art. has: 9 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00   SUB CODE: MT, PM

                          ENCL: 00

                          OTHER: 009

NO REF SOV: 026

Card 2/2

L 45227-65   EWT(m)/EWP(w)/EPF(c)/EWA(d)/EPR/EWP(j)/T/EWP(t)/EWP(b)/EWA(c)
Pc-4/Pr-4/Ps-4   RPL   JD/WW/EM   UR/2711/64/000/019/0127/0137   43
ACCESSION NR: AT5010241   40

AUTHOR: Vinogradov, G. V.; Podol'skiy, Yu. Ya.; Mustafayev, V. A.   B+1

TITLE: Wear resistance of steel in the presence of polymer powders

SOURCE: AN SSSR. Institut mashinovedeniya. Treniye i iznos v mashinakh, no. 19,
1964. Iznos i treniye metallov i plastmass (Wear and friction of metals and plas-
tics), 127-137

TOPIC TAGS: steel friction, steel wear resistance, powdered polymer, polymer
friction, polymer lubricant, metal surface, polymer rheological property

ABSTRACT: The behavior of powders of the following polymers was studied in fric-
tion tests on steel balls: polymethyl methacrylate, polypropylene, polyethylene
(with various contents of CH_3 groups), polyvinyl butyral, polystyrene, polyformal-
dehyde, polytetrafluoroethylene, polyvinyl chloride, polyvinylidene chloride,
polyvinyldimethylphenylsilane, polyvinylmethylphenylsilane, and polyallyltrime-
thylsilane. Under severe friction conditions (high loads and slip velocities),
the antifriction and antiwear properties of the powdered polymers are determined
by a combination of the rheological properties of the polymers and their capacity
to modify steel surfaces chemically. Remarkable antiwear properties over the

Card 1/2

L 45227-65
ACCESSION NR: AT5010241

entire range of loads studied were displayed by powders of polypropylene and poly-
ethylene with a maximum degree of branching, and also by polytetrafluoroethylene.
The optimum antiwear properties are exhibited by polymers which are sufficiently
stable at low temperatures, but are capable of performing the functions of oxygen
suppliers and other agents that modify the metal surfaces at high temperatures.
Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: MT, MM

NO REF SOV: 007   OTHER: 001

Card 2/2

L 27347-66   EWT(m)/EWP(w)/T/EWP(j)/EWP(t)   IJP(e)   JD/DJ/GS/RM/JH
ACC NR: AT6008940   (A)   SOURCE CODE: UR/0000/65/000/000/0015/0025

AUTHORS: Vinogradov, G. V.; Podol'skiy, Yu. Ya.; Mustafayev, V. A.

ORG: none

TITLE: New aspects in the problems of friction between plastics and metals

SOURCE: Moscow. Institut mashinovedeniya. Plastmassy v podshipnikakh skol'zheniya; issledovaniya, opyt primeneniya (Plastics in friction bearings; research and experiment in application). Moscow, Izd-vo Nauka, 1965, 15-25

TOPIC TAGS: friction gage, friction coefficient, plastic, aluminum, copper, steel, iron, polymer, material testing/ Tr-6 friction gage

ABSTRACT: The effect of metallic oxide and salts on the friction behavior of polymers on metals is investigated. It is contended that in certain circumstances metal oxides and salts can form a film between friction pairs of metal and polymer. This film can seriously alter the frictional characteristics of the pair, particularly in conditions of heavy loading and/or high velocity. Tests were conducted on a Tr-6 friction gage according to a method described earlier by V. A. Mustafayev, G. B. Vinogradov, and Yu. Ya. Podol'skiy (Iznos i treniye plastikov pri

Card 1/3

L 27347-66

ACC NR: AT6008940

4

kontaktirovanii ikh s metallami - sb. Treniye i iznos metallov i plastmass (Treniye i iznos v mashinakh, vyp. 19), Izd-vo Nauka, 1964). Friction contact was made between a metallic ring and a plastic disk. Plastic materials tested included textolite, polypropylene, and polytetrafluorethylene. Metallic specimens were pre-pared from copper, aluminum, Armco steel, tempered steel, and pig iron. Tests were performed with and without lubrication, in air and in vacuum, with varying types of loading. Measurements of the change of friction coefficient were made for these varying conditions. Results are plotted in the form shown in Fig. 1.

Fig. 1. The effect of loading on the friction of various metals on textolite without lubrica-tion in air. 1 - copper; 2 - aluminum; 3 - Armco steel; 4 - steel; 5 - pig iron.
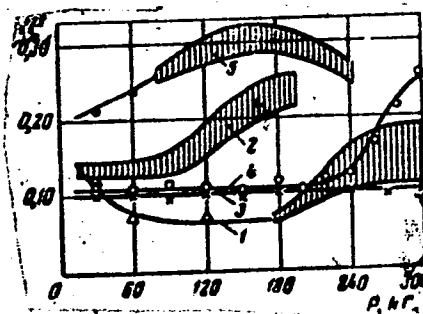
Card 2/3

L 27347-66

ACC NR: AT6008940

It was determined that the most important factor in heavy friction loads of polymers on metals is the change in effective contact area between the rubbing pairs. Orig. art. has: 8 figures.

SUB CODE: 11/ SUBM DATE: 31Jul65/ ORIG REF: 005

Card 3/3

L 1559-66   EWT(d)/EWT(m)/EWP(w)/EPF(c)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/
EWP(l)   BM/JD/DJ/GS/RM

ACCESSION NR: AT5022667

UR/0000/65/000/000/0092/0094

AUTHORS: Mustafayev, V. A.; Podol'skiy, Yu. Ya.

TITLE: A comparative investigation of friction of thermoplastics at broadly changing basic parameters of friction

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya treniya i iznosa (Theory of friction and wear). Moscow, Izd-vo Nauka, 1965, 92-94

TOPIC TAGS: plastic, polymer, thermoplastic, friction, internal friction, external friction, metal to plastic friction/ TP 6 tribometer, TP 7 tribometer

ABSTRACT: Experiments were performed to ascertain the influence of melting and flow of various thermoplastic polymers on the character of their external friction against steel. Friction of a hemisphere against a plane was studied in tribometer TP-7, of a ring against a disk in tribometer TP-6. A graphic record of the changing coefficient of friction under a load of 10 g, at the velocity of 0.01 cm/sec, and at temperatures changing from 40 to 180C is presented. The coeffi-cient was found to rise steeply at the melting temperatures for the crystalline polymers, less steeply for the amorphous and weakly crystallized polymers. It was noted that at the melting temperatures the external friction of the polymers

Card 1/2

L 1559-66

ACCESSION NR: AT5022667

passed into the internal friction and that at these temperatures the amount of load affected the coefficient only slightly. The increase of the rubbing velocity increased the relaxation processes in the polymer melt. The dependence of the frictional characteristics on the velocity was studied at the load range of 0-180 kg and at initial temperatures of 20C and at 50C. The range of velocities from 44 cm/sec to $44 \cdot 10^{-5}$ cm/sec was investigated. Here, too, passing from the external to the internal friction in the melting layer of the polymer was noted. The authors state that the change from the external to the internal friction may be produced by altering the thermomechanical properties of the polymers and also by varying the friction parameters. Orig. art. has: 2 graphs.

ASSOCIATION: Nauchnyy sovet po treniyu i smazkam, AN SSSR (Scientific Committee on Friction and Lubrication, AN SSSR) 44,55

SUBMITTED: 18May65   ENCL: 00   SUB CODE: IE

NO REF SOV: 000   OTHER: 000

Card 2/2

L 2571-66   EWT(d)/EWT(m)/EWP(w)/EPF(c)/EWP(v)/EWP(j)/T/EWP(t)/EWP(k)/EWP(h)/
EWP(b)/EWP(1)   JD/DJ/GS/RM

ACCESSION NR: AT5022681   *67* UR/0000/65/000/000/0293/0297
64
AUTHORS: Korepova, I. V.; Mustafayev, V. A.   B+1   15

TITLE: Tribometers for investigating wear and friction of plastics and metals over
a wide range of sliding velocities and temperatures in different gases and in vacuum

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya treniya i iznosa
(Theory of friction and wear). Moscow, Izd-vo Nauka, 1965, 293-297

TOPIC TAGS: tribometer, friction measurement, wear measurement, friction apparatus/
Tr 6 friction apparatus, Tr 7 friction apparatus

ABSTRACT: Tribometers Tr-6 and Tr-7 for friction and wear testing of polymer-
polymer, metal-polymer, and metal-metal friction couples over a wide range of
velocities, loads, and temperatures are described. Tr-6 (see Fig. 1 on the
Enclosure) provides contact loads of 1-800 kg, temperatures of 20-600C, and a
vacuum of 10^{-5}-760 mm Hg with specific loads of 6.7×10^3 - 62.1×10^3 and 1.1-880
kg/cm^2 and speeds of 0.2×10^{-8} - 50 and 0.4×10^{-8} - 100 cm/sec respectively for
four-ball and cylinder-flat operation. Tr-7 (see Fig. 2 on the Enclosure) provides
ranges of 10^{-2} - 1.0 kg, 20-250C, 10^{-6} - 760 mm Hg, 2×10^{-2} - 2.0 kg/cm^2 and

Card 1/4

L 2571-66

ACCESSION NR: AT5022681

$0.5 \times 10^{-4} - 1.7$ cm/sec for semisphere-flat and cylinder-flat operation. Tr-6 consists of a 240-mm cubic vacuum chamber, the friction test cluster with lubricating supplies, a hydraulic loading system, a hydraulic drive (with rotary bellows seal), heaters, and auxiliary environmental and measuring equipment. Tr-7 consists of a double vacuum chamber (440-mm outside diameter) with fluid seals, a rotating specimen table (specimen diameter up to 112 mm) driven by a synchronous motor through a multi-speed geartrain, cooling, heating, evacuating, and measuring equipment. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Nauchnyy sovet po treniyu i smazkam, AN SSSR (Scientific Committee on Friction and Lubrication, AN SSSR)

SUBMITTED: 18May65   ENCL: 02   SUB CODE: ME
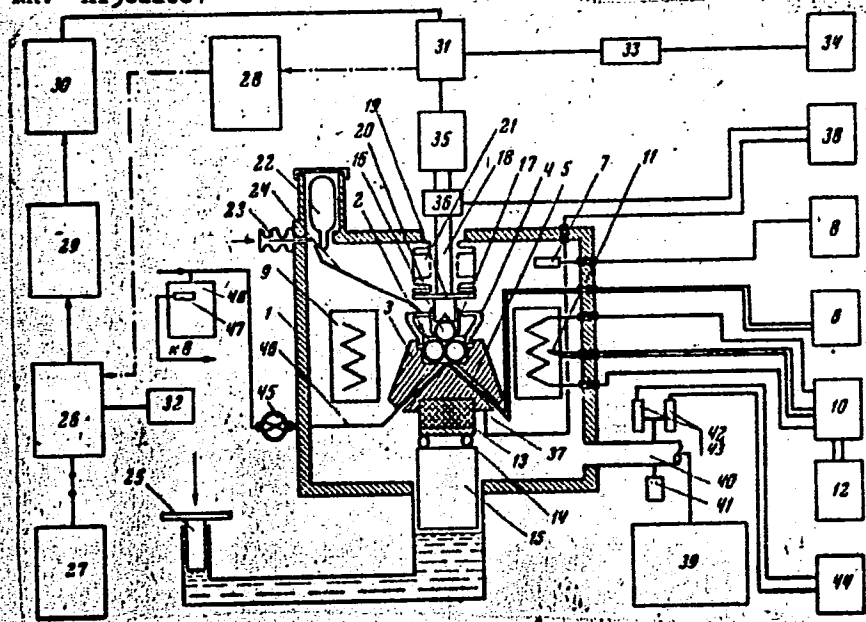
NO REF SOV: 000   OTHER: 000

Card 2/4

Fig. 1. Schematic of Tr-6 tribometer

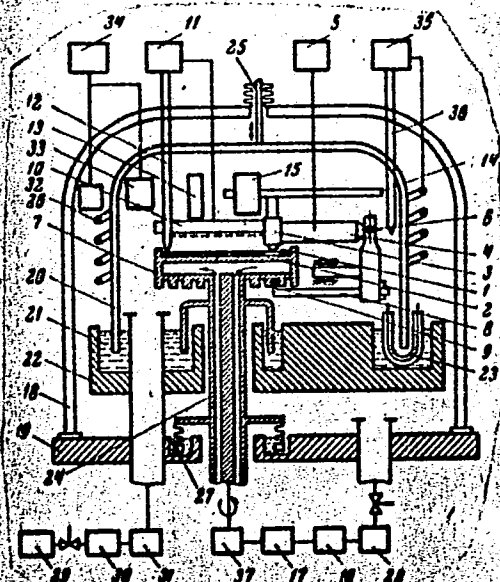Card 3/4

L 2571-66

ENCLOSURE: 02

Fig. 2. Schematic of
Tr-7 tribometer.

Card 4/4

L 1432-66   EWT(m)/EPF(c)/EWP(j)/T   RM
ACCESSION NR: AP5021891   UR/0020/65/163/006/1419/1422

AUTHORS: Vinogradov, G. V.; Mustafayev, V. A.; Podol'skiy, Yu. Ye.; Malinskiy,
Yu. M.

TITLE: Transition of external friction to viscous flow during surface melting of
polymers

SOURCE: AN SSSR. Doklady, v. 163, no. 6, 1965, 1419-1422

TOPIC TAGS: polymer, friction, viscosity, viscous flow, polystyrene, polyethylene,
resin

ABSTRACT: A tribometer was designed by means of which the effect of temperature
on the surface friction of polymers was studied. A schematic of the tribometer
is shown in Fig. 1 on the Enclosure. Three different types of polymers involved
in this study were: amorphous, crystalline, and radiationally cross-linked poly-
ethylene. The experimental results are shown graphically; typical results for
amorphous polymer are given in Fig. 2 on the Enclosure. The form of the experi-
mental curves is explained in terms of a relaxation mechanism. Orig. art. has:
4 graphs.
ASSOCIATION: Institut neftekhimicheskogo sinteza, Akademii nauk SSSR (Institute

Card 1/4

L 1432-66

ACCESSION NR: AP5021891   6

for Petrochemical Synthesis, Academy of Sciences SSSR); Fisiko-khimicheskiy
institut im. L. Ya. Karpova (Physico-Chemical Institute)

SUBMITTED: 04Feb65   ENCL: 02   SUB CODE: OC

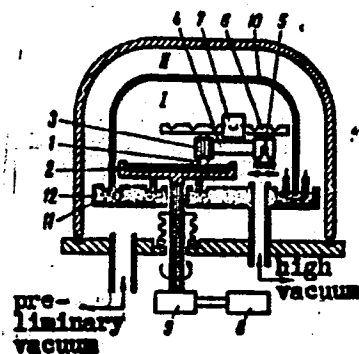NO REF SOV: 009   OTHER: 002

Card 2/4

Fig. 1.
Principal schematic of the tribometer Tr-7.
1- semispherical slider; 2- disk; 3- chuck; 4- dynamometric
plate; 5- hinged support; 6- lever; 7- load; 8- electric
motor; 9- reducer; 10- glass cover; 11- sealing liquid;
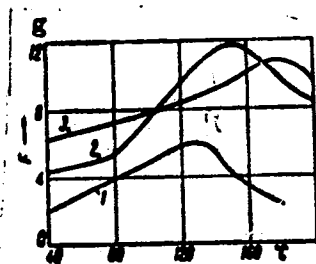12- plate

Card 3/4

L 1432-66

ENCLOSURE: 02

Fig. 2.
Effect of temperature on friction between steel and amorphous
polymers (load 10 g, rate of sliding 5 x 10^{-3} cm/sec).
1- polyvinylacetate; 2- polystyrene; 3- polymethylmethacrylate

Card 4/4 DP.

L 15042-66   EWT(m)/EWP(j)/T/ETC(m)-6   WW/DJ/RM

ACC NR: AP6003945   SOURCE CODE: UR/0374/65/000/005/0095/0100

AUTHOR: Mustafayev, V. A. (Moskva); Podol'skiy, Yu. Ya. (Moskva); Vinogradov, G. V. (Moskva)

ORG: none

TITLE: Cold flowing and melting of plastics under heavy friction conditions

SOURCE: Mekhanika polimerov, no. 5, 1965, 95-100

TOPIC TAGS: plastic, crystalline polymer, polymide, polytetrafluoroethylene, friction coefficient, melting point

ABSTRACT: A study of friction between crystalline polymers under the load of tens and hundreds of kg/cm^2, carried out with considerable mutual coverage of the friction surfaces and at sliding speeds varied over a range of tens and thousands of times has revealed the effect on their behavior of cold flow and of surface melting. The friction toward the load dependence at low sliding speeds has a pronounced maximum. It is suggested that at constant sliding speed, the area of actual contact between the friction surfaces increases with the increase of loads. This is accompanied by the growth of the friction coefficient. At sufficiently high loads, when the ratio between the area of actual contact and the nominal contact area becomes high, cold flow sets in and is accompanied by an orientation effect. This lowers the friction coefficient. It has been shown by direct experiment that the friction coefficient may

Card 1/2   UDC: 678:531.44

L 15042-66

ACC NR: AP6003945

change from 2 to 3 fold depending on the direction of the friction with respect to
the orientation of the single crystals in the surface layers of the polymer sample.
At high sliding speeds, an increase in the load increases the heat generated during
the friction, which in its turn, softens the surface layers of the polymer. The
result is an increase in the area of actual contact and a rise in the friction coeffi-
cient. Under heavy friction conditions where surface melting occurs on the samples,
the friction remains constant with growing loads. The fact that a surface layer of
melt forms is evident from the ease with which the surface layer separates from the
sample on ᵣ rapid cooling. No anisotrop'c surface structures develop during melting.
Therefore,   training of crystalline polymers at high pressures and speeds has no
substantial effect on their friction. Orig. art. has: 6 figures. [Based on author's
abstract].

SUB CODE: 11   ₔUBM DATE: 25Mar65/ ORIG REF: 008/ OTH REF: 001/

SOV/24-58-11-22/42

AUTHORS: Mirzadzhanzade, A. Kh. and Mustafayev, V. V (Baku)

TITLE: On Driving Out the Gas with Water in a Porous Medium
            (O vytesnenii gaza vodoy v poristoy srede)

ABSTRACT: The problem of driving out gas with water from a porous
            medium was formulated by L. S. Leybenzon in 1947 (Ref 1)
            On the basis of the experimental data of Babalyan (Ref 2),
            the authors assume that in the field occupied by the
            entering water the saturation will remain constant
            The solution of the unidimensional problem of driving out
            gas with water, published by Leybenzon (Ref 1), does not
            satisfy the initial condition. This is due to the fact
            that he assumed the filtration in the water bearing region
            to be a steady state one. He also assumed that the
            pressure at the boundary gas-water was constant and did
            not vary with time.   G. I. Barenblatt (Ref 5) published
            a solution of the boundary problem for the case of
            filtration of gas with a mobile boundary; he assumed that
            a surface exists which is impermeable for gas and that
            this surface is displaced in space with a speed $v(t)$

Card1/3

On Driving Out the Gas with Water in a Porous Medium

SOV/24-58-11-22/42

In this paper accurate solutions are given for two
particular problems which are of interest in themselves
and can also be used as examples for verifying the
correctness of various approximate methods, particularly
the method of successive substitution of stationary
states. In para.1 the authors consider driving the
water into a gallery located in a semi-infinite gas-
bearing stratum; thereby, the gas filtration is assumed
isothermal, the porosity independent of the pressure and
the gas as being an ideal gas. It is concluded that in
the calculations the pressure in the gas bearing region
can be assumed constant with time equalling the initial
pressure. In para.2 the solution is given of the problem
of driving water into a well which ends with a small
radius and is located in an infinite gas-bearing stratum.
Acknowledgements are made to G. I. Barenblatt for his
comments. There are 2 figures and 13 references, all of
which are Soviet.

Card2/3

On Driving Out the Gas with Water in a Porous Medium   SOV/24-58-11-22/42
SUBMITTED: March 16, 1957

Card 3/3

MIRZADZHANZADE, A.Kh.; MUSTAFAYEV, M.V.

Displacement of gas by water in a porous medium. Dokl. AN Azerb.
SSR 14 no.1:17-22 '58.
(MIRA 11:2)

1. Neftyanaya ekspeditsiya AN Azerbaydzhanskoy SSR. Predstavleno
akademikom AN Azerbaydzhanskoy SSR Z.I. Khalilovym.
(Petroleum engineering)

MUSTAFAYEV, V.V.

Gas drive in a porous oil formation. Dokl. AN Azerb. SSR 15 no.9: 787-790 '59.

(Oil fields--Production methods) (MIRA 13:2)

MUSTAFAEV, V. V., DADASHEVA, T. D.   (Baku)

"Selfsimilar Solutions of Some Problems of Subterranean Hydrodynamics."

report presented at the First All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 27 Jan - 3 Feb 1960.

MUSTAFAYEV, V.V.

Solving a problem connected with the development of gas
condensate fields. Dokl. AN Azerb. SSR 16 no. 11:1059-1062 '60.
(MIRA 14:2)

1. Azerbaydzhanskiy nauchno-issled. neftyanoy institut po dobyche
nefti. Predstavleno akademikom A.Kh. Mirzadzhanzade.
(Oil reservoir engineering)

MAGERRAMOV, N.Kh. (Baku); MIRZADZHANZADE, A.Kh. (Baku); MOTYAKOV, V.I. (Baku); MUSTAFAYEV, V.V. (Baku)

Stationary seepage of gas-condensate mixtures. PMTF no.6:69-72 N-D '61.   (MIRA 14:12)
(Soil percolation)
(Condensate oil wells)

LYAPUSTIN, A.K.; BOZHKO, G.; KONDRAT'YEV, I.; GARBARCHUK, M.I.; MUSTAFAYEV, Z.S.; IBRAGIMOV, R.; ZINOV'YEV, B.; ALEKSEYEV, A.A.; GLUKHOVA, G.; SAZONOV, Yu.; MEDVEDEV, I.D.

In the Soviet Union. Veterinariia 39 no.11:89-96 N '62.

(MIRA 16:10)

MUSTAFAYEVA, A.K.

Influence of hydrosulfide water from the spring at Shikhovo on
cardiovascular function. Azerb.med.zhur. no.12:27-31 D '59.
(MIRA 13:4)
(KHANLAR--MINERAL WATERS, SULFUROUS) (CARDIOVASCULAR SYSTEM)

MUSTAFAYEVA, N. M

Mustafayeva, N. "Treating malaria in children with micro-
transfusions of blood," Trudy Azerbaydzh. nauch.-issled. in-ta
okhrany materinstva i mladenchestva i pediatr. kafedr Azer-
baydzh. med. in-ta, Baku, 1949, p. 102-08, (Resume in Azerbaijani).

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

MUSTAFAYEVA, M. M.

Mustafayeva, M. M. "The intramuscular method of treating
pneumonia in children, with sulf din," Trudy Azer auch.
nauch.-issled. in-ta okhrany materinstva i mladenchestva i
pediatr. kafedr Azerbaydzh. med. in-ta, Baku, 1948, p.
242-45, (In Russian and Azerbaijani).

SO: U-3734, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 1 , 1949.

ASKEROV, A.K.; SADYKH-ZADE, S.I.; MUSTAFAYEVA, P.R.

Production of vinyl- and   -methylvinyltoluenes by the catalytic
dehydrogenation of ethyl- and isopropyltoluenes. Azert.khim.zhur.
no.6:51-59 '61.   (MIRA 15:5)
                    (Styrene) (Toluene) (Dehydrogenation)

MS.

...y of ...
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MUSTAFAYEVA, R.G.

Ecology of the blackbird (Turdus merula L.) in Azerbaijan.
Izv.AN Azerb.SSR.Ser biol. nauk no.5:47-51 '64.   (MIRA 18:4)

MUSTAFAYEVA, R.I.

Some characteristics of the distribution of static levels in
wells of the Sabunchi series of the Surakhany petroleum deposit.
Dokl. AN Azerb. SSR 18 no.5:29-32 '62.   (MIRA 15:7)

1. Neftepromyslovoye upravleniye "Ordzhonikidzeneft'".
Predstavleno akademikom AN AzSSR M.V. Abramovichem.
                    (Surakhany--Oil field brines)

DZHAMALOV, I.M.; MEKHTIYEV, D.M.; MUSTAFAYEVA, S., red.

[Development of equipment and technology in oil and gas
production in Azerbaijan] Razvitie tekhniki i tekhnologii
dobychi nefti i gaza v Azerbaidzhane. Baku, Azerneshr,
1961. 45 p.   (MIRA 18:5)

SULTANOV, D.A.; MUSTAFAYEVA, M.A.

Studying the substantial composition and physical properties of the
clay rocks of the Apsheronian stage of western Azerbaijan (Ortagash
fold). Dokl. AN Azerb. SSR 20 no.5:27-32 '64.   (MIRA 17:2)

ALIYEV, F.Ch.; MUSTAFAYEVA, S.A.

   Characteristics from the viewpoint of engineering geology of the clay
   rocks of th. "1906" bank in connection with their lithification. Trudy
   Inst. geol. AN Azerb. SSR 23:5-13 '64.   (MIRA 18:7)

MUSTAFAYEVA, S.I.

Effect of sowing rate on the growth and development of the Bol-Bugda variety of wheat in unirrigated soils of the lower Karabakh. Dokl AN Azerb. SSR 19 no.12:53-57 '63.   (MIRA 17:4)

1. Azerbaydzhanskiy sel'skokhozyaystvennyy institut. Predstavleno akademikom AN AzSSR D.M.Guseynovym.

MUSTAFAYEVA, S.I.

Study of the effect of sowing time on the growth, development
and yield of the Bol-Bugda wheat under dry farming conditions.
Dokl. AN Azerb. SSR 19 no.6:63-67 '63   (MIRA 17:7)

1. Institut genetiki i selektsii AN AzSSR. .redstavleno akade-
mikom AN AzerbSSR D.M.Guseynovym.

MUSTAFAYEVA, S. I.

Study of the effect of sowing time on the growth, development and
yeild of the Bol-bugda wheat raised in watered soils of the lower
Karabakh Steppe. Dokl. AN Azerb. SSR 19 no.8:63-69 '63.

(MIRA 17:11)

1. Azerbaydzhanskiy sel'skokhozyaystvennyy institut. Predstavleno
akademikom AN AzSSR D.M. Guseynovym.

41366
S/081/62/000/018/033/059
B158/B180

5 3367

AUTHORS: Sultanov, S. A., Naroditskaya, L. G., Mardanov, M. A.,
               Ozerova, Yu. F., Mustafayeva, Z. B.

TITLE: Destructive hydrogenation of the gas oil fraction of
               petroleums

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 445, abstract
               18M132 (Azerb. neft. kh-vo, no. 1, 1962, 39-40)

TEXT: The gas oil fraction of Balakhano heavy oil containing 45.2,
aromatics, was used in a study of the destructive hydrogenation of gas oil
fractions which contain large quantities of aromatic hydrocarbons and do
not have satisfactory qualities as fuels. The hydrogenation was carried
out at 350-400°C, a pressure of 200 atm., and a volumetric crude oil feed
rate of 0.5-1.5, in the presence of the industrial catalyst WS_2. The
kerosene-gas oil fraction of petroleum from the Neftyanyye Kamni field
underwent destructive hydrogenation under the same conditions. It was
found that the fuel qualities of the crude can be improved under these

Card 1/2

Destructive hydrogenation of the gas ...   S/061/62/000/018/033/059
B156/B160

optimum conditions. The paraffinic hydrocarbon content of the hydrogenisate rises noticeably, and, moreover, 20-26% of the naphthene rings are opened up as a result of the destructive hydrogenation. [Abstracter's note: Complete translation.]

Card 2/2

2-6

USSR/Farm Animals - Silkworm.

Abs Jour   : Ref Zhur - Biol., No 7, 1958, 31046

Author   : Mustafazade A.

Inst   :
Title   : The Influence of Late Feedings on the Cocoon Crop of
              Highly Productive Breeds and Hybrids of the Mulberry-
              Feeding Silkworm.
              (Vliyaniye pozdnikh vykormok na urozhaynost' vysokoprodu-
              ktivnykh porod i gibridov tutovogo shelkopryada).

Orig Pub   : Sots. s. kh. Azerbaydzhana, 1957, No 2, 41-45

Abstract   : The new highly productive breeds of the mulberry-feeding
              silkworm are characterized by an early maturity and com-
              plete their caterpillar period 4-5 days earlier than old
              breeds. In a number of districts of Azerbaijan, especi-
              ally in the years with a large amount of precipitation,
              while the hatching of "silk-seed" is as usual and coin-
              cides with the development of 4-5 leaves of the mulberry,

Card 1/2

MUSTAFA-ZADE, A., agronom.

Effect of different silkworm feeding times on the silk production
of cocoons. Nauka i pered. op. v sel'khoz. 8 no. 7:29-30 Jl '58.
(MIRA 11:8)

1. Upravleniye shelkovodstva Ministerstva sel'skogo khozyaystva
Azerbaydzhanskoy SSR.
(Silkworms--Feeding and feeding stuffs)

MUSTAFAZADE, M.

Periodic solutions to a certain class of nonlinear equations
in partial derivatives. Trudy Inst. mat. i mekh. AN Azerb.SSR
1:112-136 '61.   (MIRA 14:11)
            (Differential equations, Partial)

MUSTAFAZADE, M.A.; GASANOV, F.G.; OSMANOV, Yu.K.

Using mathematical programming to determine the maximum
possible withdrawal of oil. Dokl. AN Azerb. SSR 19 no.6:
25-29 '63.   (MIRA 17:7)

1. Vychislitel'nyy tsentr AN AzSSR. Predstavleno akademikom
AN AzSSR S.M. Kuliyevym.

MUSTAFIN, A.A.

Case of multiparity. Veterinariia 33 no.12:52 D '56.

(MLRA 9:12)

(Cows) (Birth, Multiple)

MUSTAFIN, A.F.

Changes in the conductive vessels of a cucumber grafted on the
gourd. Bot. zhur. 47 no.5:685-690 My '62.   (MIRA 16:5)

1. Plodovoshchnoy institut imeni I.V.Michurina, Michurinsk.
        (Grafting) (Cucumbers) (Gourds)

MUSTAFIN, A.M.

Hermaphrodite forms of cucumber. Priroda 50 no. 3:113-114 Mr '61.
(MIRA 14:2)

1. Plodoovoshchnoy institut im. I.V. Michurina, Michurinsk.
(Cucumber)

RUBTSOV, M.I., dots.; YERMILOVA, A.A., dots.; CHEREPOVA, O.M., kand.
sel'khoz.nauk; SKRIPNIKOV, Yu.G., dots.; DOROKHOV, A.A., kand.
sel'khoz.nauk; LITVINOVA, M.K., assistent; MUSTAFIN, A.M., pre-
podavatel'; PESHKOV, V.P., red.; POPOV, V.N., tekhn. red.

[Growing vegetables in the Central Chernozem Region of the
U.S.S.R.]Vyrashchivanie ovoshchei v TSentral'noi chernozemnoi
zone SSSR. Tambov, Tambovskoe knizhnoe izd-vo, 1962. 110 p.
                                     (MIRA 16:2)
1. Sotrudniki kafedry ovoshchevodstva Michurinskogo plodoovoshrh-
nogo instituta im.I.V.Michurina (for all except Peshkov, Popov).
   (Central Chernozem Region—Vegetable gardening)

MUSTAFINA, A.M.; SOMKIN, M.I.

Determining the manshift output of an excavator. Trudy
Inst. gor. dela AN Kazakh. SSR 18:21-24 '65.

(MIRA 18:12)

6.

SOV/179-59-5-39/41

(Novosibirsk)

24.4100

q

AUTHORS: Mustafin, Ch.G. and Sokolov, B.P.

TITLE: Strength of an Organic Glass in a Plane Stress State

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 5, pp 179-181 (USSR)

ABSTRACT: Experiments are described on hollow thin walled tubes of an organic glass (the exact nature is not specified) at 5 temperatures between 22.5 and 45°C, subjected to a stress which may be produced by internal pressure, by axial tension, by a twisting moment or by any combination of all three. Because of the thin walls of the tube, the stress state is two-dimensional; it is specified by the ratio

$$n = \tau_{max}/\sigma_1$$

where τ_{max} is the maximum shear stress and σ_1 is the maximum normal stress. By suitably combining the three types of loading, various values of n can be obtained. For example, $n = 0.25$ corresponds to loading by internal pressure, $n = 0.5$ corresponds to axial tension and $n = 1$ corresponds to application of a twisting moment.

SOV/179-59-5-39/41

Strength of an Organic Glass in a Plane Stress State

The principal stresses in the glass are plotted as a function of n for different temperatures and show maxima at values of n which depend on temperature. In general, the failure is of a brittle nature to the left of the maximum and of a plastic nature to the right. At the maximum, the condition

$$\frac{R_\tau}{R_\sigma} = \frac{\tau_{max}}{\sigma_1}$$

holds, where R_τ is the strength in shear and R_σ is the breaking strength. This condition indicates the most favourable loading; values of n corresponding to the optimum loading at the 5 test temperatures are tabulated. Analysis of data for steel EI694 at $700°C$ enables a curve of principal stress to be plotted against n for this material; the curve shows a maximum at n = 0.5 . There are 5 figures, 1 table and 2 Soviet references.

SUBMITTED: March 30, 1959

Card 2/2

MUSTAFIN, Ch.G., SOKOLOV, B.P. [deceased]

Selecting a tolerance zone for blade pitches and determining effective clearance between the bearing surfaces of teeth of multibearing base joints of turbine blades. Izv.Sib.otd.AN SSSR no.1:41-55 '60.
(MIRA 13:7)

1. Institut radiofiziki i elektroniki Sibirskogo otdeleniya AN SSSR.

(Turbines)

8`84

S/114/60/000/004/004/009
E194/E355

26.2122

AUTHORS: Sokolov B. P., Candidate of Technical Sciences
             (Deceased) and Mustafin Ch. G. Engineer

TITLE: Design of Multitooth Blade-root Joints Operating
             at High Temperatures

PERIODICAL: Energomashinostroyeniye 1960 Nc 4
             pp. 18 - 20

TEXT: The stresses in a fir-tree blade root are usually
resolved into two components. One is the local variation
of stress characterised by stress concentrations at minimum
sections. The other is a general irregularity of stress
depending on the angle of the root and on the distribution
between joint teeth, of stresses due to centrifugal force.
It is generally recognised that the normal stresses are those
that lead to failure of parts operating for a long time under
creep conditions. Tests carried out at the TsKTI (Central
Boiler Turbine Institute) have also shown that creep reduces

Card 1/6

S/114/60/000/004/004/009
E194/E355

Design of Multitooth Blade root Joints Operating at High
Temperatures

local stress irregularities. A root design will be most
rational if the minimum possible initial stress variation
is maintained throughout the life of the joint or if the
irregularity is reduced with time, reaching a minimum
value near the end of life. The overall irregularity of
the stress is greatly influenced by the temperature distri
bution in the joint and the properties of the materials used.
The present article considers the influence of the properties
of the conjugate materials and of the temperature difference
between the blade root and the projection between disc slots
on the overall irregularity of stress   The article does not
consider the influence of temperature gradient over the
height of the joint which has been discussed in the work of
A.N. Grubin. A simplified root is then considered   the
blade is assumed to be attached to the rotor body continuously
throughout the height of a smooth conical joint that is

Card 2/6

87864

S/114/60/000/004/004/009
E194/E355

Design of Multitooth Blade-root Joints Operating at High Temperatures

an infinite number of root teeth are assumed. Formulae are then derived for stress distribution over the height of the joint but as for practical purposes it is only necessary to know the coefficients of irregularity of loading between the first and last pairs of teeth of the joint. Expressions for these are obtained in simplified form in expressions (1). These expressions show that irregularity of stress distribution over the joint depends on the number of pairs of teeth, the ratio between the dimensions of the blade roots and the projections between rotor slots and also on the ratio of the moduli of the materials of blade and disc. In deriving Eqs. (1) it is assumed that the blade is fixed to the disc continuously over the whole height of the joint and no allowance is made for strain of the teeth. These factors may be allowed for by introducing coefficients methods of determining the values of these coefficients are

Card 3/6

87864

S/114/60/000/004/004/009
E194/E355

Design of Multitooth Blade-root Joints Operating at High
Temperatures

explained, In particular the ratio between the moduli of
the two materials, of the blade and of the disc characterises
the combined operation of the two materials. Accordingly this
ratio is termed the "combined operation coefficient" of the
joint parts. The modified formulae may be used in designing
high-temperature joints when the materials operate in the
creep region. In this case, the combined operation coefficient
may be considered as the ratio of the linear approximated
creep moduli. Methods of determining the combined operation
coefficient in this case are then given. It is claimed that
the values of stress irregularities coefficient obtained by
the methods used in this article give an error of not more
than 20%, as compared with the more accurate methods given
by Sokolov. It is concluded that the load distribution between
teeth of the joint may alter considerably as the material
creeps. Thus, for a six-tooth root joint when the combined
operation coefficient is changed from 0.5 to 3 the coefficient
Card 4/6

87e61

S/114/60/000/004/004/009
E194/E355

Design of Multitooth Blade-root Joints Operating at High
Temperatures

of stress irregularity of the first and last teeth are
respectively decreased and increased by a factor of 2 - 3.
The high-temperature root joint of a stationary turbine
fails because of the maximum normal stresses, which should
accordingly be reduced as much as possible. This is
particularly important if the materials are likely to
become brittle after operation at high temperature. From
this standpoint it is best to select materials for the
joint parts, whose combined operation coefficient remains
constant with time. If for any reason this is not possible
and the choice of materials is such that the combined
operation coefficient can alter appreciably with time the
influence of this factor must be allowed for. The joint
should be redesigned by altering the shape and size in such
a way that the irregularity of stress in the joint decreases
in the course of time. Methods of doing this are briefly

Card 5/6

S/114/60/000/004/004/009
E194/E355

Design of Multitooth Blade-root Joints Operating at High
Temperatures

described. The influence of the number of pairs of teeth
on the overall irregularity of stressing increases as the
combined operation coefficient increases. There are
advantages in using a small number of teeth not more than
four. It may sometimes occur that materials of blade and
disc operate at low temperatures outside the creep region
but have different elastic moduli for example combinations
of dural and steel and titanium alloys and steel. Design
procedures similar to those described in this article may
also be necessary in such cases. There are 5 figures and
3 Soviet references.

Card 6/6

MUSTAFIN, Ch.G., inzh.

Stress concentration in T-shaped feet joints of working turbi
blades. Energomashinostroenie 7 no.12:46 D '61.   (MIRA 1. 12)
(Turbines--Blades)

39299
S/122/62/000/007/001/006
D262/D308

$2\,6.\gamma|\nu\nu$

AUTHOR: Mustafin, Ch. G., Engineer

TITLE: Calculations of fir-tree joints for turbine working
                 blades

PERIODICAL: Vestnik mashinostroyeniya, no. 7, 1962, 13 - 17

TEXT: The paper deals with the problem of calculating clear-
ances between the teeth of fir-tree joints in order to obtain a uniform
load distribution on all teeth. Two stages: a) when the joint is sub-
jected to temperature deformation only, and b) when the joint is under
full working load, are considered and the equations for calculating the
clearances between the teeth are deduced. A typical example taking into
account elastic conditions of deformation and also deformation due to
material creep is worked out. It is stated that for low temperatures the
clearances can be dispensed with and the joints can be fully filled in.
There are 3 tables and 5 figures.

Card 1/1

S/096/63/000/004/004/010
E194/E455

AUTHOR: Mustafin, Ch.G., Engineer

TITLE: Factors of safety for high-temperature components of
              turbines

PERIODICAL: Teploenergetika, no.4, 1963, 28-30

TEXT: A theoretical basis is offered for selection of safety
factors in turbine designing, with particular reference to gas-
turbine blade roots.   The overall factor of safety n_0, may be
considered as the product of the general factor of safety n_1
(which applies to any component) and a particular factor of safety
n_2 (which applies to those parts whose conditions of manufacture
or of operation call for something special).   The general safety
factor n_1 is represented as the product of five coefficients

$$n_1 = S_1 S_2 K_1 K_2 M_2 \qquad (2)$$

where S_1 and S_2 depend on the nature of the metal and on the
importance of the part; K_1 and K_2 allow for error in determin-
ation of the forces applied to the part and internal stress;
Card 1/3

Factors of safety ...

M_2 allows for variations in the strength characteristics of the metal from one part to another. Turbine blades are required to have very long life, so there will be some error in extrapolation from laboratory creep tests. As there is a great scatter in test results on samples from different melts of the same steel, results must be available from a considerable number of melts. In selecting the safety factor, allowance must be made for scatter of creep-test results by the factor K_s which can replace the product S_1M_2. The long-term strength of parts in which there are stress concentrations differs from that of smooth cylindrical specimens. Therefore, the concept of effective stress concentration K_σ is introduced, which can replace the coefficients K_1 and K_2 so that finally the general factor of safety can be written as

$$n_1 = SK_sK_\sigma \qquad (5)$$

This equation shows how the factor of safety depends on having parts of favorable shape without stress concentration and also on the availability of test results on many different batches of metal. The value of the factor S depends on the importance of

Card 2/3

S/096/63/000/004/004/010
E194/E455

Factors of safety ...

the part; for example $S = 1.00$ for cases where fracture of the part simply stops the machine without causing much damage whereas $S = 1.30$ when fracture causes an accident with danger to human life; turbine blades fall in this latter category. The following formula is recommended for K_s

$$K_s = 1.40 + 2\Delta \qquad (8)$$

Δ is obtained from a curve which rises from zero at 1000 hours to 0.20 at 100000 hours extrapolation. The formulas given are used to work out a numerical example for a turbine blade root operating at a temperature of 600°C. It is shown that for the most favorable case (the melt considered being of the worst properties) $n_1 = 1.8$ and for the least favorable case $n_1 = 2.6$. Current works' practice is to take an arbitrary value of $n_0 = 1.5$ which appears to be too low and n_1 should be at least 2, particularly for new types of construction in which K_σ is not known. There are 4 figures.

ASSOCIATION: Tsentral'nyy kotloturbinnyy institut
(Central Boiler and Turbine Institute)

Card 3/3

MUSTAFIN, Ch.G., inzh.

Choice of the type of terminal fixings for the working blades of
turbines designed to operate at high temperatures.
Energomashinostroenie 9 no.2:43-46 F '63.   (MIRA 16:3)
                              (Turbines)

L 40842-66   EWT(d)/EWT(m)/EWP(w)/ WP(v)/T/EWP(t)/ETI/EWP(k)   IJP(c)   EM/JD

ACC NR: AP6019188 (N)   SOURCE CODE: UR/0122/66/000/002/0016/0020

AUTHOR: Mustafin, Ch. G. (Candidate of technical sciences)

ORG: None

TITLE: Compliance of teeth and selection of clearances between them in tapered stem connectors for turbine blades

SOURCE: Vestnik mashinostroyeniya, no. 2, 1966, 16-20

TOPIC TAGS: steam turbine, turbine blade, bending stress, elastic modulus

ABSTRACT: Experimental data are given for bending deflection of the teeth on various shapes of tapered stem connectors for turbine blades and these results are compared with theoretical calculations. Deflection was determined experimentally at 25°C on models of blade stems made from sheet celluloid 2.69-3.05 mm thick (figures 1 and 2) and transparent plastic (figure 3). The prototypes of these models were blade stems used in turbine plants. The results show that there is no definite relationship between deflection of a tooth in a given pair and the width of the blade stem between the teeth in this pair, which may be due to variations in the mechanical properties of the material as well as to deviations in the dimensions
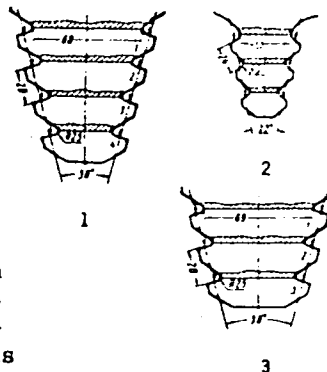
Card 1/2   UDC: 62-226.2.001.24

L 40842-66

ACC NR: AP6019188   /

of the teeth. A formula is given for the bending deflection of the tooth due to tan-
gential stresses (85-95% of the total deflection) where the tooth is assumed to be a
cantilever forced into the body of the blade stem and loaded by a concentrated force
at the center of the line of contact between teeth. The experimentally determined de-
flection was considerably greater than the results of theoretical calculations in all
cases. The various types of loads on blade stems in practical turbine wheels are con-
sidered. It is shown that the tensile load on the teeth is nonuniformly distributed
under conditions of elastic deformation due to the differences in dimensions in the
cold state and differences in temperature expansion during operation. If the modulus
of elasticity for the blade material is close to that of the disc, an ideally accurate
connector will give uniform load distribution if temperature deformations are elimi-
nated. Recommendations are made for clearances in these cases. When the blades in the
last stages of condensation steam turbines are made from titanium alloy, the leading
teeth on the blade stems will be overloaded if they have an ideally accurate shape.
Orig. art. has: 6 figures, 3 tables, 7 formulas.

SUB CODE: 13,20/SUBM DATE: none/ ORIG REF: 007

Card 2/2 MLP

MUSTAFIN, D.S.

One generalization of the Mobius function. Uch. zap. Osh. gos.
ped. inst. no.5:25-28 '63.

Some transformations of a series for e^x. Ibid.:35-40

The symbolic power and some of its applications. Ibid.:41-85
(MIRA 18:2)

MUSTAFIN, D.S.

Classification of arithmetic functions. Izv. AN SSSR. Ser.
mat. 29 no.4:877-887 '65.   (MIRA 18:9)

VARSHAVSKIY, T.P.; AGAPOV, B.G.; MUSTAFIN, F.A.; PERMYAKOV, V.A.

Reducing the escape of gas during the charging of coke ovens.
Koks i khim.no.2:26-30 '56.   (MLRA 9:7)

1.Vostochnyy uglekhimicheskiy institut (for Agapov).2.N.-Tagil'skiy
koksokhimicheskiy zaved.
                    (Coke ovens)

MUSTAFIN, F.A.

267. EXPERIENCE IN THE INTRODUCTION OF WEAKLY CAKING COALS. Taynovnikov, A.S. and Mustafin, F.A. (Koks i Khim (Coke & Chem, Moscow), 1956, (5), 6-9). Experience at the Nizhne-Tagil coke and chemical works is recorded with tabulated results. The best coking coals have been eliminated and 10% weakly coking coals introduced into the coke oven charge. To make this possible extra measures have been taken to ensure uniformity of blending and the coking temperature has been raised. (L).

EYDEL'SHTEYN, Ya.M.; KULESHOV, P.Ya.; SHVARTS, G.A.; MUSTAFIN, F.A.

Comments on R.Z.Lerner's article "Changing the layout of a coking section for considerable increase in the number of ovens per battery. Koks i khim.no.6:32-36 '56.   (MIRA 9:10)

1.Koksokhimmontazh (for Eydel'shteyn).2.Zaporozhskiy koksokhimicheskiy zavod (for Kuleshov and Shvarts).3.N.-Tagil'skiy koksokhimicheskiy zavod (for Mustafin).

        (Coke ovens)

TSYNOVNIKOV, A.S.; MUSTAFIN, F.A.; GUSEV, A.P.

Preparation of coals and blended coal charges for coking. Koks i
khim. no8:10-12 '56.   (MIRA 10:1)

1. Vostochnyy uglekhimicheskiy institut (for TSynovnikov).2.Nizhne-
Tagil'skiy koksokhimicheskiy zavod.
                    (Coal preparation)

AUTHORS: Ukhov, L. P. and Mustafin, F. A.   68-58-7-7/27

TITLE: Determination of the Coefficient of Excess Air from the
           Carbon Dioxide Content in the Combustion Products
           (Opredeleniye koeffitsiyenta izbytka vozdukha po
           soderzhaniyu v produktakh goreniya CO_2)

PERIODICAL: Koks i Khimiya, 1958, Nr 7, pp 22-26 (USSR)

ABSTRACT: The coefficient of excess air is usually determined from
           the content of CO_2 and O_2 in the combustion gases using
           Yushin's formula (1). The authors consider that while
           the determination of CO_2 in waste gas is usually accurate
           the determination of O_2 is not and, therefore, propose
           a formula (4) for the determination of the coefficient of
           excess air on the basis of the CO_2 content only. For
           this purpose it is necessary to know the percent content
           of CO_2 in dry combustion products at a theoretical
           consumption of air and the amount of dry combustion
           products obtained on combustion of $1m^3$ of gas at a
           theoretical consumption of air. The use of the formula

Card 1/2

68-58-7-7/27

Determination of the Coefficient of Excess Air from the Carbon
Dioxide Content in the Combustion Products

is illustrated with examples.
There are 2 tables.

ASSOCIATIONS: Ural'skiy politekhnicheskiy institut
(Ural Polytechnical Institute) and
N.-Tagil'skiy   metallurgicheskiy kombinat
(Nizhniy Tagil Metallurgical Combine)
1. Air--Determination   2. Waste gases--Analysis   3. Fuels
--combustion   4. Combustion--Analysis

Card 2/2

TSYNOVNIKOV, A.S.; SHEMERYANKIN, B.V.; LIKHOGUB, Ye.P.; MUSTAFIN, F.A.;
     BERKUTOVA, G.I.

Increasing the charges of coke ovens during leveling. Koks i
khim. no.2:19-22 '60.   (MIRA 13:5)

1. Vostochnyy uglekhimicheskiy institut (for TSynovnikov,
Shemeryankin). 2. Teplotekhstantsiya (for Likhogub). 3. Nizhne-
Tagil'skiy metallurgicheskiy kombinat (for Mustafin, Berkutova).
          (Nizhniy Tagil--Coal--Carbonization)

MUSTAFIN, F.A.; SLAVGORODSKIY, M.V.; BURSHTEYN, M.D.

Automation of the feeding of air into the heating system of coke
batteries. Koks i khim. no.1:28-33 '61.   (MIRA 14:1)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Mustafin and
Slavgorodskiy). 2. TSentral'naya laboratoriya avtomatiki (for
Burshteyn).
                    (Coke ovens)

OSTROUKHOV, M.Ya.; PANCHENKO, S.I.; Prinimali uchastiye: FRISHBERG, V.D.;
    PETROV, V.K.; RESHETKO, A.; VYATKIN, G.P.; BRATCHENKO, V.P.;
    FOFANOV, A.A.; MILYAYEV, M.N.; PRIVALOV, V.Ye.; MUSTAFIN, F.A.;
    PUSHKASH, I.I.; LAZAREV, B.L.

Experimental blast furnace smelting using coke from wet
preparation coals. [Sbor. trud.] Nauch.-issl.inst.met.
no.4:63-70 '61.   (MIRA 15:11)

1. Vostochnyy uglekhimicheskiy institut (for Ostroukhov, Panchenko,
Frishberg, Petrov, Reshetko). 2. Nauchno-issledovatel'skiy institut
metallurgii (for Vyatkin, Bratchenko). 3. Nizhne-Tagil'skiy
metallurgicheskiy kombinat (for Privalov, Mustafin, Pushkash,
Lazarev).
                    (Blast furnaces--Testing)
                     (Coke--Testing)

GORELOV, P.N.; GORNYKH, T.I.; MUSTAFIN, F.A.

Removal of oils and tarry residues from waste waters in a flotation
machine. Koks i khim. no.8:50-51 '61.   (MIRA 15:1)

1. Vostochnyy uglekhimicheskiy institut (for Gorelov, Gornykh).
2. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Mustafin).
                    (Water--Purification) (Flotation)

MAKAROV, G.N.; KAZINIK, Ye.M.; POPCHENKO, R.A.; SEMENOV, A.S.; YERKIN,
    L.I.; RYVKIN, I.Yu.; PRIVALOV, V.Ye.; MUSTAFIN, F.A.; KUZNETSOV ,
    P.V.; ZOROKHOVICH, G.Ya.

Coking of the coal charge in an oven with a rotating ring floor.
Koks i khim. no.11:34-41 '62.   (MIRA 15:12)

1. Moskovskiy khimiko-tekhnologicheskiy institut im. D.I.
Mendeleyeva (for Makarov, Kazinik, Popchenko, Semenov).
2. Vostochnyy uglekhimicheskiy institut (for Yerkin, Ryvkin,
Privalov). 3. Nizhne-Tagil'skiy metallurgicheskiy kombinat
(Mustafin, Kuznetsov, Zorokhovich).
                          (Coke)

MUSTAFIN, F.A.; CHERKASOV, N.Kh.; BERKUTOVA, Ye.I.

Box coking test of coal charges with the addition of blast
furnace flue dust. Koks.i khim. no.12:28-29 '62. (MIRA 16:1)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
                   (Coke—Testing)

KOGAN, L.A.; BOGOYAVLENSKII, V.V.; MAKAROV, G.N.; SEMENOV, A.S.; KUZNETSOV, P.V.;
MUSTAFIN, F.A.

Obtaining pitch coal coke for electrode manufacture. Koks i khim. no.3:
22-25 '63.   (MIRA 16:3)

1. Vostochnyy uglekhimicheskiy institut (for Kogan, Bogoyavlenskiy),
2. Moskovskiy Ordena Lenina khimiko-tekhnologicheskiy institut im.
D.I.Mendeleyeva (for Makarov, Semenov). 3. Nizhne-Tagil'skiy metallurgi-
cheskiy kombinat (for Kuznetsov, Mustafin).
(Coke)

KUPERMAN, P.I.; GRYAZNOV, N.S.; MOCHALOV, V.V.; FROLOV, V.V.; MUSTAFIN, F.A.;
PUSHKASH, I.I.; SLAVGORODSKIY, M.V.; LAZAREV, B.L.; BORISOV, V.I.;
Prinimali uchastiye: CHERKASOV, N.Kh.; ZABRODSKIY, M.P.; RYTCHENKO,
A,I.; RUTKOVSKAYA, Ye.N.; SAITBURGANOVA, N.I.; SHTAGER, A.A.;
SHISHLOVA, T.I.; BUDOL', Z.P.; MEN'SHIKOVA, R.I.; GORELOV, L.A.;
AGARKOVA, M.M.; KOUROV, V.Ya.; KOGAN, L.A.; BEZDVERNYY, G.N.;
POKROVSKIY, B.I.

Effect of the lengthening of the coking time on the coke quality and
testing of coke in the blast furnace process. Koks i khim. no.9:
23-28 '63.
(MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Gryaznov,
Mochalov, Kogan, Bezdvernyy, Pokrovskiy). 2. Ural'skiy institut
chernykh metallov (for Frolov). 3. Nizhne-Tagil'skiy
metallurgicheskiy kombinat (for Mustafin, Pushkash, Slavgorodskiy,
Lazarev, Cherkasov, Zabrodskiy, Rytchenko, Rutkovskaya,
Saitburganova, Shtager, Shishlova, Budol', Men'shikova).
4. Koksokhimstantsiya (for Borisov, Gorelov, Agarkova, Kourov).
(Coke—Testing)

MEDVEDEV, N.P.; KARAMYSHEV, V.V.; MUSTAFI., F.I.; AVRAMOV., G.D.

Problems in the histochemistry and physiology of defects of the heart. Nauch. trudy Kaz. gos. med. inst. 12:47-48. '64.

1. Kafedra gospital'noy khirurgi. No.2 (zav. - prof. N.P. Medvedev) Kazanskogo meditsinskogo instituta.

GRIGORENKO, Mikhail Grigor'yevich; KASIMOV, S.A.; KOZLOVSKIY, G.B.;
MARTYNOV, N.V.; MUSTAFIN, G.A.; NEMIROVSKIY, Ya.I.; FEYGIN, L.A.;
KRIMERMAN, M.N., inzhener, redaktor; MAL'KOVA, N.V., tekhnicheskiy
redaktor

[Road building machinery] Dorozhnye mashiny. Moskva, Avtotransizat
Ministerstva avtomobil'nogo transporta i shosseinykh dorog SSSR.
Pt. 2. 1954. 283 p.   (MLRA 8:2)
        (Road machinery)

GRIGORENKO,M.G.; KOZLOVSKIY, G.B.; MUSTAFIN, G.A.; FEYGIN, L.A.; SHIKALOV,
A.G.; PETERSA, Ye.R., kandidat tekhnicheskikh nauk, redaktor; FAYNBERG,
G.M., inzhener, redaktor.

[Road machinery] Dorozhnye mashiny. Pod obshei red. E.R.Petersa i G.M.
Fainberga. Moskva, Ministerstva avtomobil'nego transporta i shosseinykh
dorog SSSR. Pt.1. 1954.366 p. (Microfilm)   (MIRA 9:6)
                         (Road machinery)

MURAV'YEV, I.M.; GIMATUDINOV, Sh.K.; NIKOLAYEV, V.A.; MUSTAPIN, G.G.

Effect of the degree of the nonuniformity of a porous medium
on oil yield. Izv. vys. ucheb. zav.; neft' i gaz 7 no.11:35-38
'64.   (MIRA 18:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlen-
nosti im. akad. I.M. Gubkina.

75-13-2-24/27

AUTHOR: Pozdnyakov, A.A.

TITLE: Symposium on the Theory and Use of Complexons in
               Analytical Chemistry (Simpozium po teorii i primeneniyu
               kompleksonov v analiticheskoy khimii)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 2,
               pp. 261-262 (USSR)

ABSTRACT: A symposium on the theory and the use of complexons
               in analytical chemistry which was called by the Commission
               for Analytical Chemistry at the Institute for Geoche-
               mistry and Analytical Chemistry imeni V.I. Vernadskiy
               AS USSR, took place in Moscow from November 20 to
               November 30, 1957. More than 50 specialists of complexo-
               metry, amongst whom were also representatives from people's
               democracies, attended this symposium. 13 lectures were
               attended and judged Part of the reports was devoted to
               theoretical problems, another part dealt with the synthesis

Card 1/4

75-13-2-24, 17

Symposium on the Theory and Use of Complexons in Analytical Chemistry

of new complexons and color indicators and with the
use of complexons, especially of complexon III, for the
separation and determination of elements.
K.B. Yatsimirskiy (Ivanovo) reported on the results of
thermochemical investigations of complex compounds.
R. Prshibil (Prague) reported on metallochromic indicators
of the phthalein-series and on 2 new indicators: Glycine-
thymol-blue and glycine-cresol-red. I Kerbl (Prague)
reported on the results obtained by the investigation of
metallochromic derivatives of amino acids and on the
mechanism of the indicator effect of metallochromic
indicators. One of the articles by this author dealt
with errors in titration in complexometry. The reports
delivered by L Erdei (Budapest) and I.M. Mustafin
(Saratov) were devoted to the use of some new indicators

Card 2/4

75-13-2-34/37

Symposium on the T eory and Use of Complexons in Analytical Chemistry

in complexometry. R. Irshibil reported on the complexo-
metric determination of oxydizing and relucing compounds.
F.N. Paley (Moscow) reported about the relucing properties
of complexon III. R.I. Lastovskiy (Moscow) reported on
investigation works in the field of the synthesis of new
complexons and t eir investigation. Lyan' Shi-tsyuan' and
Tsen' In'-tsao (Peking) reported on the possibility of
the use of the complexes of pyrocatechol with trivalent
iron for the determination of fluorine.M.M. Senyavin
(Moscow) delivered a lecture on the use of complexons
in the ion exchange chromatography. Yu.Yu. Lur'ye
(Moscow) reported on some methods of analysis in the
metallurgy of nonferrous metals which are based on the
use of complexon III. In the course of a discussion,
A.K. Babko proposed to use complexon III for t e retardation
of crystallization processes.

Card 3/4

75-13-2-24/27

Symposium on the Theory and Use of Complexons in Analytical Chemistry

        I.P. Alimarin, I.V. Tananayev, V.I. Kuznetsov, A.K. Babko, N.P. Komar' and others took an active part in the symposium.

        1. Chemistry--USSR

Card 4/4

MUSTAFIN,

I.S.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Analytical Chemistry

New method of rapid synthesis of organic reagents for qualitative analysis. L. M. Kulberg, I. S. Mustafin, and A. I. Cherkesov (State Univ., Saratov). Oktiab. Khim. Zhur. 18, 547-52(1952)(in Russian).—Numerous useful org. reagents can be prepd. in a few min. by simple trituration of the components in a mortar; these show the same order of sensitivity toward various ions as do the conventionally synthesized reagents. Thus, rubbing 2-naphthol, NaNO₂, and KHSO₄ 1-3 min. gives a brown solid, usable as 1-nitroso-2-naphthol for Co and Zr detection. 1-Naphthol, NaNO₂, and SnCl₂ similarly give 2-nitroso-1-naphthol, suitable for Hg or Co. Resorcinol, NaNO₂, and KHSO₄ give dinitrosoresorcinol, suitable for Cu⁺⁺ and Fe⁺⁺. Phthalic anhydride, hydroquinone, and S·Cl₂ with boric acid or NaHCO₃ give similarly (the product was heated briefly in the test tube before use) quinizarin, suitable for Al detn. Paraformaldehyde, NH₂(OH).HCl, and K₂CO₃ give formaldoxime   ..ule for Cu⁺⁺, Ni⁺⁺, or Mn⁺⁺. Salicylic acid, paraformaldehyde, and NaNO₂ (a little H₂SO₄ added) similarly give aurin tricarboxylic acid (NH₄ salt), suitable for Al or Fe⁺⁺⁺. p-Nitroaniline, 8-quinolinol, NaNO₂, and KHSO₄ give (p-nitrophenylazo)-8-quinolinol, suitable for Mg detn. p-Nitroaniline, 1,8-dihydroxy-3,6-naphthalenedisulfonic acid, NaNO₂, and KHSO₄ give (p-nitrophenylazo)chromotropic acid, suitable for detn. of B or Ge. Saffranine, NaNO₂, and KHSO₄ give Diazine Green S, suitable for Sn⁺⁺⁺ detn. Rubbing together 1-2 min. 0.05 g. p-nitroaniline, 0.1 g. 8-quinolinol, 0.4 g. KHSO₄, and a little CuSO₄ gives a mixt. which added to a soln. contg. NO₂ ion gives a red ppt. or orange-red color. Ph-NHNH₂.HCl, KOH, and CS₂ give 2-mercapto-4-phenyl-1,3,4-thiadiazole-5-thione suitable for the detn. of Bi, Sb, and Pb. Rubbing K ferricyanide with sirupy H₃PO₄ and Et₂-NPh gives a reagent suitable for Zn detn. (red color or ppt.). Cd(OAc)₂, KI, pyridine, and KHSO₄ give a substance suitable for Bi detn. (yellow color). ClCH₂CO₂H, NH₄-CNS, and PhNH₂ similarly yield thioglycolanilide, suitable for Co⁺⁺ detn.   G. M. Kosolapoff

MUSTAFIN, I. S.

3

1099. **The influence of the methyl group on the properties of organic solvents.** L. M. Kul'berg, T. I. Badeeva and L. S. Mustafin. Uhr. Khim. Zhur., 1955, 21 (6), 641-645; Ref. Zhur., Khim., 1956, Abstr. No. 29,264.—The influence of the position of the CH_3- group in aromatic reagents used analytically is studied. It is established that, in the para- position relative to the analytically active groups, the CH_3- group does not influence the properties of the reagent; in the ortho-position relative to the $(CH_3)_2N$- group it lowers the sensitivity of the analytical reaction; in the Egrave reaction the use of dimethylaniline increases the sensitivity 4-5 times with respect to dimethyl-o-toluidine; in the detection of oxidants, tetramethylbenzidine is several times more sensitive than tetramethyl-o-tolidine; the use of crystal violet for the detection of Zn, Cd and Sb by Kuznetzov's method increases the sensitivity 8, 10 and >40 times, respectively, as compared with the use of its trimethyl analogue. The CH_3- group in the ortho-position with respect to other groups may increase the sensitivity of the reagent; in the detection of Fe, 2-hydroxy-m-toluic acid is more sensitive than salicylic acid; in the detection and determination of Cl, o-cresol is more sensitive than phenol; o-tolylanthranilic acid is a more sensitive reagent for oxidants than phenylanthranilic acid; alumocresone (trimethylaurintricarboxylic acid) gives aluminium and iron lakes with considerably greater mol. coeff. of extinction than alumiuon.

C. D. KOPKIN